

Abstract of the Disclosure

A method of detecting polynucleic acid polymerase activity, including DNA and RNA polymerase activity. The method includes providing a polynucleic acid primer-template complex labeled with a energy-emitting chemical species and a nucleotide labeled with a energy-emitting chemical species; mixing the polynucleic acid primer-template complex and the nucleotide with a sample comprising or suspected to comprise a polynucleic acid polymerase; prior to, contemporaneously with or after the mixing, exposing the labeled polynucleic acid primer-template complex and the labeled nucleotide to radiation of excitation wavelength for one of the energy-emitting chemical species to thereby excite that energy-emitting chemical species; and detecting a signal produced by energy transfer between the excited energy-emitting chemical species and the other energy-emitting chemical species as a result of incorporation of the nucleotide into the polynucleic acid primer-template complex via the activity of the polynucleic acid polymerase, the detection of the signal indicating polynucleic acid polymerase activity in the sample. Candidate compounds can also be identified as modulators of polynucleic acid polymerase activity via the method.